

CLAIMS

We claim:

1. A dock leveler adapted to be mounted to a loading dock, the dock leveler comprising:

5 a ramp adapted to be rotatably coupled to the loading dock;
a guard coupled to the ramp, the guard being rotatable between a raised position that forms a barrier and a lowered position;
a biasing member coupled to the guard, wherein the biasing member biases the guard toward the raised position when the guard is in the raised position, and wherein the biasing member biases the guard toward the lowered position when the guard is in the lowered position.

10 2. The dock leveler of claim 1, wherein the biasing member comprises a spring.

15 3. The dock leveler of claim 2, wherein the spring comprises an gas spring.

20 4. The dock leveler of claim 2, wherein the spring biases the guard toward the raised position when the spring is over center in a first direction and the spring biases the guard toward the lowered position when the spring is over center in a second direction.

25 5. The dock leveler as claimed in claim 1, further comprising a linkage between the biasing member and the guard.

6. The dock leveler as claimed in claim 5, wherein the linkage includes a bell crank rotatably coupled to the frame and a link coupled to the bell crank and the guard.

5 7. The dock leveler as claimed in claim 6, wherein the biasing member is coupled to the bell crank such that rotation of the bell crank in one direction moves the biasing member over center in one direction to bias the guard toward the raised position and rotation of the bell crank in an opposite direction moves the biasing member over center in an opposite direction to bias the guard toward the lowered position.

10 8. The dock leveler as claimed in claim 1, further comprising a damper coupled to the guard, wherein the damper slows the downward motion of the guard.

15 9. The dock leveler as claimed in claim 1, further comprising a linkage that raises the guard from the lowered position to the raised position when the ramp is raised from the first position to the second position.

20 10. The dock leveler as claimed in claim 1, further comprising a manually-activated mechanical linkage that can be used to lower the guard from the raised position into the lowered position.

11. The dock leveler as claimed in claim 1, further comprising a kick-out strike adapted to be coupled to the loading dock below the ramp, and a linkage coupled to the guard, wherein lowering of the ramp to a declined position causes the kick-out strike to contact and move the linkage to rotate the guard to the lowered position.

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12. A dock leveler adapted to be mounted to a loading dock, the dock leveler comprising:

a frame;

a ramp rotatably coupled to the frame, the ramp being rotatable between a substantially horizontal first position and an inclined second position;

a guard coupled to the ramp, the guard being rotatable between a raised position that forms a barrier and a lowered position;

a linkage that raises the guard from the lowered position to the raised position when the ramp is raised from the first position to the second position.

13. The dock leveler as claimed in claim 12, wherein the linkage comprises a cable coupled between the guard and the frame.

14. The dock leveler as claimed in claim 13, wherein the linkage comprises a bell crank rotatably coupled to the ramp and a biasing member coupled to the bell crank such that when the ramp is raised from the first position to the second position, the cable rotates the bell crank moving the biasing member over center to bias the guard toward the raised position.

15. The dock leveler as claimed in claim 12, further comprising a damper coupled to the guard, wherein the damper slows the downward motion of the guard.

16. A dock leveler adapted to be mounted to a loading dock, the dock leveler comprising:

a ramp adapted to be rotatably coupled to the loading dock, the ramp being rotatable between a substantially horizontal first position and an inclined second position;

a guard coupled to the ramp, the guard being rotatable between a raised position that forms a barrier and a lowered position;

a manually-activated mechanical linkage that can be used to lower the guard from the raised position into the lowered position.

17. The dock leveler as claimed in claim 16, wherein the manually-activated mechanical linkage includes a portion that is accessible from the top of the ramp.

18. The dock leveler as claimed in claim 17, wherein the portion is accessible from an opening in the ramp.

19. A dock leveler adapted to be mounted to a loading dock, the loading dock including an upper dock surface and a cavity disposed in the upper dock surface, the dock leveler comprising:

a frame adapted to be positioned within the cavity;

5 a ramp rotatably coupled to the frame, the ramp being rotatable between a substantially horizontal first position and a declined second position;

a guard coupled to the ramp, the guard being rotatable between a raised position that forms a barrier and a lowered position;

a kick-out strike connected to the frame;

10 a linkage coupled to the guard, wherein lowering of the ramp to the second position causes the kick-out strike to contact and move the linkage to rotate the guard to the lowered position.

20. The dock leveler as claimed in claim 19, wherein the linkage
15 includes a bell crank rotatably coupled to the frame and to the guard, and a pull-down link coupled to bell crank.

21. The dock leveler as claimed in claim 19, wherein the linkage is
20 moveable manually to lower the guard from the raised position to the lowered position.

22. A dock leveler adapted to be mounted to a loading dock, the dock leveler comprising:

a ramp having first and second ends;

a lip rotatably coupled to the second end of the ramp and being movable between a pendant position and an extending position, wherein the lip includes an upper edge; and

a guard rotatably coupled to the second end of the ramp and being movable between a raised position and a lowered position, wherein the guard includes a lower edge in contact with the upper edge; and

a flange secured to at least one of the guard and the lip and in contact with the other of the guard and the lip, the flange causing the guard and the lip to move together.

23. The dock leveler of claim 22, wherein the flange is welded to at least one of the guard and the lip.

24. The dock leveler of claim 22, wherein the flange is secured to at least one of the guard and the lip by a removable fastener.

25. A method of replacing a guard on a dock leveler having a ramp, a lip pivotally coupled to the ramp by a hinge pin, and the guard being pivotally mounted to the hinge pin, the method comprising:

detaching the guard from the hinge pin;

5 removing the guard from the hinge pin without removing the hinge pin from the ramp;

providing a replacement guard; and

attaching the replacement guard to the hinge pin.

10 26. The method of claim 25 wherein attaching the replacement guard includes attaching the replacement guard without removing the hinge pin from the ramp.

15 27. The method of claim 25 wherein the guard includes brackets connected to the guard and secured to the hinge pin by removable fasteners, and wherein detaching the guard includes removing the fasteners from the brackets.